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Phone: (800)755-6001  
[www.alpineitw.com](http://www.alpineitw.com)



Site Information:	Page 1:
Customer: W. B. Howland Company, Inc.	Job Number: 21-5167
Job Description: Roper Res	
Address: FL	

Job Engineering Criteria:	
Design Code: FBC 7th Ed. 2020 Res	IntelliVIEW Version: 20.01.01A JRef #: 1X372150009
Wind Standard: ASCE 7-16	Wind Speed (mph): 130
Building Type: Closed	Design Loading (psf): 40.00

This package contains general notes pages, 4 truss drawing(s) and 2 detail(s).

Item	Drawing Number	Truss
1	055.21.1512.46353	A01
3	055.21.1512.49930	B01
5	A14015ENC160118	

Item	Drawing Number	Truss
2	055.21.1512.47893	A02
4	055.21.1512.52743	B02
6	GBLLETIN0118	

## **General Notes**

### **Truss Design Engineer Scope of Work, Design Assumptions and Design Responsibilities:**

The design responsibilities assumed in the preparation of these design drawings are those specified in ANSI/TPI 1, Chapter 2; and the National Design Standard for Metal Plate Connected Wood Truss Construction, by the Truss Plate Institute. The truss component designs conform to the applicable provisions of ANSI/TPI 1 and NDS, the National Design Specification for Wood Construction by AWC. The truss component designs are based on the specified loading and dimension information furnished by others to the Truss Design Engineer. The Truss Design Engineer has no duty to independently verify the accuracy or completeness of the information provided by others and may rely on that information without liability. The responsibility for verification of that information remains with others neither employed nor controlled by the Truss Design Engineer. The Truss Design Engineer's seal and signature on the attached drawings, or cover page listing these drawings, indicates acceptance of professional engineering responsibility solely for the truss component designs and not for the technical information furnished by others which technical information and consequences thereof remain their sole responsibility.

The suitability and use of these drawings for any particular structure is the responsibility of the Building Designer in accordance with ANSI/TPI 1 Chapter 2. The Building Designer is responsible for determining that the dimensions and loads for each truss component match those required by the plans and by the actual use of the individual component, and for ascertaining that the loads shown on the drawings meet or exceed applicable building code requirements and any additional factors required in the particular application. Truss components using metal connector plates with integral teeth shall not be placed in environments that will cause the moisture content of the wood in which plates are embedded to exceed 19% and/or cause corrosion of connector plates and other metal fasteners.

The Truss Design Engineer shall not be responsible for items beyond the specific scope of the agreed contracted work set forth herein, including but not limited to: verifying the dimensions of the truss component, calculation of any of the truss component design loads, inspection of the truss components before or after installation, the design of temporary or permanent bracing and their attachment required in the roof and/or floor systems, the design of diaphragms or shear walls, the design of load transfer connections to and from diaphragms and shear walls, the design of load transfer to the foundation, the design of connections for truss components to their bearing supports, the design of the bearing supports, installation of the truss components, observation of the truss component installation process, review of truss assembly procedures, sequencing of the truss component installation, construction means and methods, site and/or worker safety in the installation of the truss components and/or its connections.

This document may be a high quality facsimile of the original engineering document which is a digitally signed electronic file with third party authentication. A wet or embossed seal copy of this engineering document is available upon request.

### **Temporary Lateral Restraint and Bracing:**

Temporary lateral restraint and diagonal bracing shall be installed according to the provisions of BCSI chapters B1, B2, B7 and/or B10 (Building Component Safety Information, by TPI and SBCA), or as specified by the Building Designer or other Registered Design Professional. The required locations for lateral restraint and/or bracing depicted on these drawings are only for the permanent lateral support of the truss members to reduce buckling lengths, and do not apply to and may not be relied upon for the temporary stability of the truss components during their installation.

### **Permanent Lateral Restraint and Bracing:**

The required locations for lateral restraint or bracing depicted on these drawings are for the permanent lateral support of the truss members to reduce buckling lengths. Permanent lateral support shall be installed according to the provisions of BCSI chapters B3, B7 and/or B10, or as specified by the Building Designer or other Registered Design Professional. These drawings do not depict or specify installation/erection bracing, wind bracing, portal bracing or similar building stability bracing which are parts of the overall building design to be specified, designed and detailed by the Building Designer.

### **Connector Plate Information:**

Alpine connector plates are made of ASTM A653 or ASTM A1063 galvanized steel with the following designations, gauges and grades: W=Wave, 20ga, grade 40; H=High Strength, 20ga, grade 60; S=Super Strength, 18ga, grade 60. Information on model code compliance is contained in the ICC Evaluation Service report ESR-1118, available on-line at [www.icc-es.org](http://www.icc-es.org).

### **Fire Retardant Treated Lumber:**

Fire retardant treated lumber must be properly re-dried and maintained below 19% or less moisture level through all stages of construction and usage. Fire retardant treated lumber may be more brittle than untreated lumber. Special handling care must be taken to prevent breakage during all handling activities.

## General Notes (continued)

### **Key to Terms:**

Information provided on drawings reflects a summary of the pertinent information required for the truss design. Detailed information on load cases, reactions, member lengths, forces and members requiring permanent lateral support may be found in calculation sheets available upon written request.

BCDL = Bottom Chord standard design Dead Load in pounds per square foot.

BCLL = Bottom Chord standard design Live Load in pounds per square foot.

CL = Certified lumber.

Des Ld = total of TCLL, TCDL, BCLL and BCDL Design Load in pounds per square foot.

FRT = Fire Retardant Treated lumber.

FRT-DB = D-Blaze Fire Retardant Treated lumber.

FRT-DC = Dricon Fire Retardant Treated lumber.

FRT-FP = FirePRO Fire Retardant Treated lumber.

FRT-FL = FlamePRO Fire Retardant Treated lumber.

FRT-FT = FlameTech Fire Retardant Treated lumber.

FRT-PG = PYRO-GUARD Fire Retardant Treated lumber.

g = green lumber.

HORZ(LL) = maximum Horizontal panel point deflection due to Live Load, in inches.

HORZ(TL) = maximum Horizontal panel point long term deflection in inches, due to Total Load, including creep adjustment.

HPL = additional Horizontal Load added to a truss Piece in pounds per linear foot or pounds.

Ic = Incised lumber.

FJ = Finger Jointed lumber.

L/# = user specified divisor for limiting span/deflection ratio for evaluation of actual L/defl value.

L/defl = ratio of Length between bearings, in inches, divided by the vertical Deflection due to creep, in inches, at the referenced panel point. Reported as 999 if greater than or equal to 999.

Loc = Location, starting location of left end of bearing or panel point (joint) location of deflection.

Max BC CSI = Maximum bending and axial Combined Stress Index for Bottom Chords for of all load cases.

Max TC CSI = Maximum bending and axial Combined Stress Index for Top Chords for of all load cases.

Max Web CSI= Maximum bending and axial Combined Stress Index for Webs for of all load cases.

NCBCLL = Non-Concurrent Bottom Chord design Live Load in pounds per square foot.

PL = additional Load applied at a user specified angle on a truss Piece in pounds per linear foot or pounds.

PLB = additional vertical load added to a Bottom chord Piece of a truss in pounds per linear foot or pounds

PLT = additional vertical load added to a Top chord Piece of a truss in pounds per linear foot or pounds.

PP = Panel Point.

R = maximum downward design Reaction, in pounds, from all specified gravity load cases, at the indicated location (Loc).

-R = maximum upward design Reaction, in pounds, from all specified gravity load cases, at the identified location (Loc).

Rh = maximum horizontal design Reaction in either direction, in pounds, from all specified gravity load cases, at the indicated location (Loc).

RL = maximum horizontal design Reaction in either direction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).

Rw = maximum downward design Reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the identified location (Loc).

TCDL = Top Chord standard design Dead Load in pounds per square foot.

TCLL = Top Chord standard design Live Load in pounds per square foot.

U = maximum Upward design reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).

VERT(CL) = maximum Vertical panel point deflection in inches due to Live Load and Creep Component of Dead Load in inches.

VERT(CTL) = maximum Vertical panel point deflection ratios due to Live Load and Creep Component of Dead Load, and maximum long term Vertical panel point deflection in inches due to Total load, including creep adjustment.

VERT(LL) = maximum Vertical panel point deflection in inches due to Live Load.

VERT(TL) = maximum Vertical panel point long term deflection in inches due to Total load, including creep adjustment.

W = Width of non-hanger bearing, in inches.

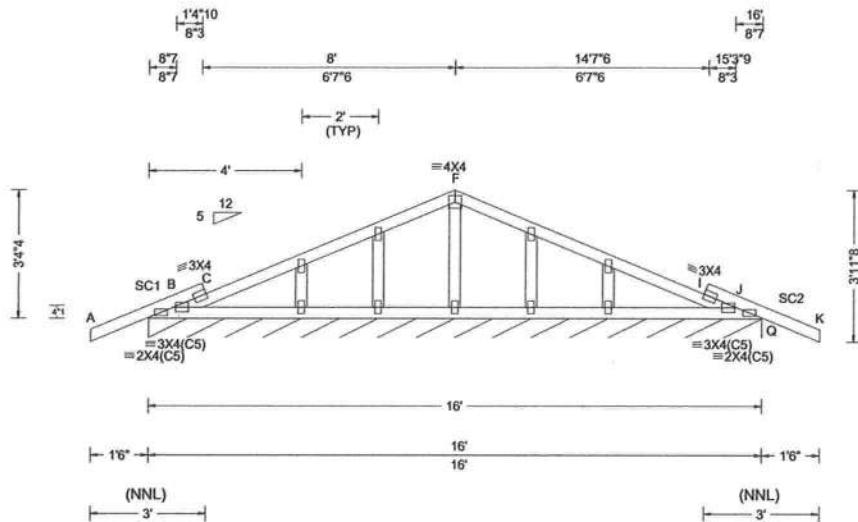
Refer to ASCE-7 for Wind and Seismic abbreviations.

Uppercase Acronyms not explained above are as defined in TPI 1.

**References:**

1. AWC: American Wood Council; 222 Catoctin Circle SE, Suite 201; Leesburg, VA 20175; [www.awc.org](http://www.awc.org).
2. ICC: International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
3. Alpine, a division of ITW Building Components Group Inc.: 514 Earth City Expressway, Suite 242, Earth City, MO 63045; [www.alpineitw.com](http://www.alpineitw.com).
4. TPI: Truss Plate Institute, 2670 Crain Highway, Suite 203, Waldorf, MD 20601; [www.tpininst.org](http://www.tpininst.org).
5. SBCA: Wood Truss Council of America, 6300 Enterprise Lane, Madison, WI 53719; [www.sbcindustry.com](http://www.sbcindustry.com).

SEQN: 614219	GABL	Ply: 1	Job Number: 21-5167	Cust: R 215 JRef: 1X372150009 T2
FROM: CDM		Qty: 1	Roper Res Truss Label: A01	DrwNo: 055.21.1512.46353 / YK 02/24/2021



Loading Criteria (psf)		Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs), or *=PLF					
TCLL:	20.00	Wind Std: ASCE 7-16	Pg: NA Ct: NA CAT: NA	PP Deflection in loc L/defl L/#	Gravity		Non-Gravity			
TCDL:	10.00	Speed: 130 mph	Pf: NA Ce: NA	VERT(LL): 0.003 C 999 240	Loc R+ / R- / Rh / Rw / U / RL					
BCLL:	0.00	Enclosure: Closed	Lu: NA Cs: NA	VERT(CL): 0.006 C 999 180	Q* 94 /- /- /47 /- /2				Wind reactions based on MWFRS	
BCDL:	10.00	Risk Category: II	Snow Duration: NA	HORZ(LL): 0.001 C - -	Q Q Brg Width = 192 Min Req = -				Bearing B is a rigid surface.	
Des Ld:	40.00	EXP: C Kz: NA	Building Code:	HORZ(CL): 0.002 C - -	Members not listed have forces less than 375#					
NCBCLL:	10.00	Mean Height: 15.00 ft	FBC 7th Ed. 2020 Res.	Creep Factor: 2.0						
Soffit:	2.00	TPI Std: 2014	Rep Fac: Yes	Max TC CSI: 0.230						
Load Duration: 1.25	MWFRS Parallel Dist: 0 to h/2	FT/RT: 20(0)/10(0)	Plate Type(s):	Max BC CSI: 0.079						
Spacing: 24.0 "	C&C Dist a: 3.00 ft	WAVE		Max Web CSI: 0.035						
	Loc. from endwall: Any				VIEW Ver: 20.01.01A.0724.11					

#### Lumber

Top chord: 2x4 SP #2;  
Bot chord: 2x4 SP #2;  
Webs: 2x4 SP #3;  
Stack Chord: SC1 2x4 SP #2;  
Stack Chord: SC2 2x4 SP #2;

#### Plating Notes

All plates are 2X4 except as noted.

#### Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

#### Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 3-4-4.



FL REG# 278, Yoonhwak Kim, FL PE #86367  
02/24/2021

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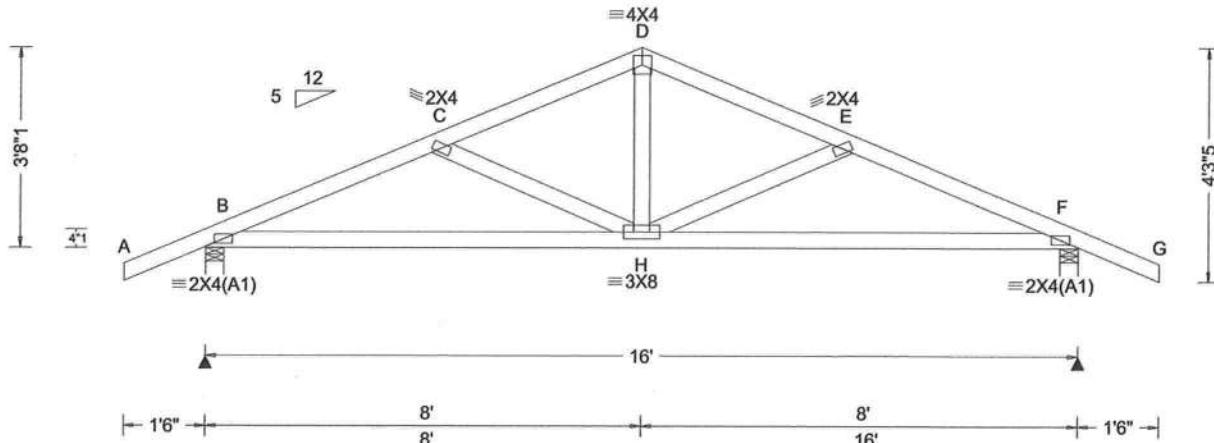
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For more information see these web sites: Alpine: alpineitw.com; TPI: tpinst.org; SBCA: sbcaindustry.com; ICC: iccsafe.org; AWC: awc.org

SEQN: 614218	COMM	Ply: 1	Job Number: 21-5167	Cust: R.215 JRef: 1X372150009 T1
FROM: CDM		Qty: 3	Roper Res Truss Label: A02	DrwNo: 055.21.1512.47893 / YK 02/24/2021

4'3"14 +-----+ 8' +-----+ 11'8"2 +-----+ 16' +-----+

4'3"14 3'8"2 3'8"2 4'3"14



Loading Criteria (psf)		Wind Criteria		Snow Criteria (Pg,Pf in PSF)		Defl/CSI Criteria		▲ Maximum Reactions (lbs)			
TCLL:	20.00	Wind Std:	ASCE 7-16	Pg: NA	Ct: NA	CAT: NA	PP Deflection In loc L/def L/#	Loc	Gravity R+	/ R-	Non-Gravity / Rh
TCDL:	10.00	Speed:	130 mph	Pf: NA	Ce: NA		VERT(LL): 0.033 H 999 240	B	752	/-	/441 /141 /104
BCLL:	0.00	Enclosure:	Closed	Lu: NA	Cs: NA		VERT(CL): 0.066 H 999 180	F	752	/-	/441 /141 /-
BCDL:	10.00	Risk Category:	II	Snow Duration:	NA		HORZ(LL): 0.013 H - -	Wind reactions based on MWFRS			
Des Ld:	40.00	EXP: C Kzt: NA					HORZ(CL): 0.025 H - -	B	Brg Width = 4.0	Min Req = 1.5	
NCBCLL:	10.00	Mean Height: 15.00 ft		Building Code:		Creep Factor: 2.0		F	Brg Width = 4.0	Min Req = 1.5	
TCDL:	5.0 psf	TCDL: 5.0 psf		FBC 7th Ed. 2020 Res.		Max TC CSI: 0.198		Bearings B & F are a rigid surface.			
Soffit:	2.00	BCDL: 5.0 psf		TPI Std: 2014		Max BC CSI: 0.642		Members not listed have forces less than 375#			
Load Duration: 1.25		MWFRS Parallel Dist: 0 to h/2		Rep Fac: Yes		Max Web CSI: 0.172		Maximum Top Chord Forces Per Ply (lbs)			
Spacing: 24.0 "		C&C Dist a: 3.00 ft		FT/RT: 20(0)/10(0)				Chords	Tens. Comp.	Chords	Tens. Comp.
		Loc. from endwall: Any		Plate Type(s):				B - C	656 - 1153	D - E	490 - 877
		GCpi: 0.18		WAVE				C - D	490 - 877	E - F	656 - 1153
		Wind Duration: 1.60									

#### Lumber

Top chord: 2x4 SP #2;  
Bot chord: 2x4 SP #2;  
Webs: 2x4 SP #3;

#### Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

#### Additional Notes

The overall height of this truss excluding overhang is 3'-8-1".

Maximum Bot Chord Forces Per Ply (lbs)  
Chords Tens. Comp. Chords Tens. Comp.

B - H 1026 - 500 H - F 1026 - 496

Maximum Web Forces Per Ply (lbs)  
Webs Tens. Comp.

D - H 452 - 146



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02/24/2021

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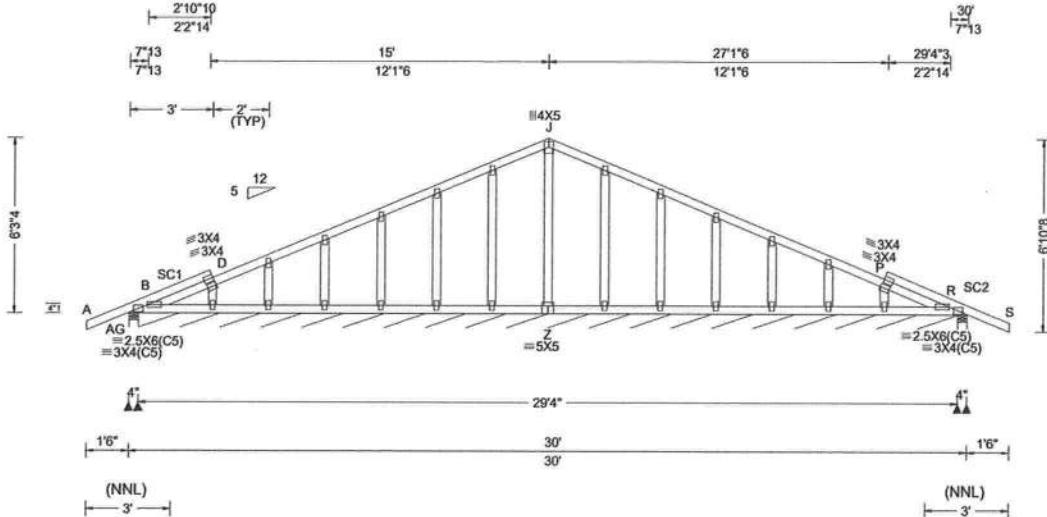
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Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses. A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec.2.

For more information see these web sites: Alpine: alpinetw.com; TPI: tpinst.org; SBCA: sbcaindustry.com; ICC: iccsafe.org; AWC: awc.org

SEQN: 614217 GABL Ply: 1 Job Number: 21-5167  
FROM: CDM Qty: 2 Roper Res Cust: R 215 JRef: 1X372150009 T4  
Truss Label: B01 DrwNo: 055.21.1512.49930  
/ YK 02/24/2021



## Lumber

Top chord: 2x4 SP #2;  
Bot chord: 2x4 SP #2;  
Webs: 2x4 SP #3;  
Stack Chord: SC1 2x4 SP #2;  
Stack Chord: SC2 2x4 SP #2;

## Plating Notes

All plates are 2X4 except as noted.

## Loading

Gable end supports 8" max rake overhang. Top chord must not be cut or notched.

Wind

Wind loads based on MWFRS with additional C&C member design.

### Wind loading base

**Additional Notes**

gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in

The overall height of this truss excluding overhang is



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02/24/2021

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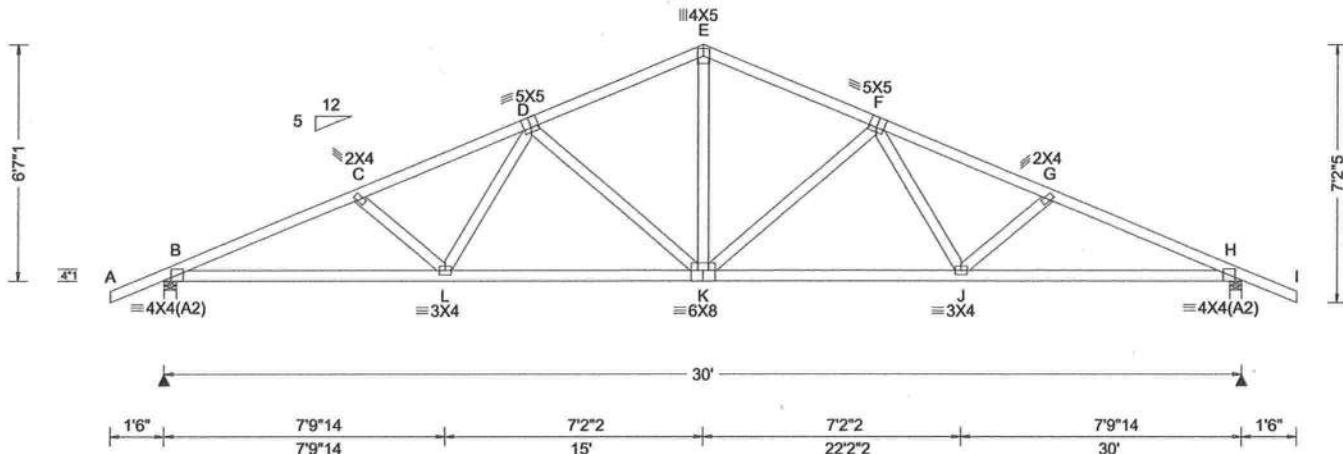
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SEQN: 614215	COMM	Ply: 1	Job Number: 21-5167	Cust: R 215 JRef: 1X372150009 T3
FROM: CDM		Qty: 18	Roper Res Truss Label: B02	DrwNo: 055.21.1512.52743 / YK 02/24/2021

5'5"3 10'2"10 15' 19'9"6 24'6"13 30'  
5'5"3 4'9"6 4'9"6 4'9"6 4'9"6 5'5"3



Loading Criteria (psf)		Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)					
TCLL:	20.00	Wind Std: ASCE 7-16	Pg: NA Ct: NA CAT: NA	PP Deflection in loc L/defl L/#	Gravity Loc	R+	/R-	/Rh	/Rw	Non-Gravity /U /RL
TCDL:	10.00	Speed: 130 mph	Pf: NA Ce: NA	VERT(LL): 0.134 K 999 240	B	1324	/-	/-	/756	/243 /170
BCLL:	0.00	Enclosure: Closed	Lu: NA Cs: NA	VERT(CL): 0.269 K 999 180	H	1324	/-	/-	/756	/243 /-
BCDL:	10.00	Risk Category: II	Snow Duration: NA	HORZ(LL): 0.050 J - -	Wind reactions based on MWFRS					
Des Ld:	40.00	EXP: C Kzt: NA		HORZ(TL): 0.099 J - -	B	Brg Width = 4.0				Min Req = 1.6
NCBCLL:	10.00	Mean Height: 15.00 ft	Building Code: FBC 7th Ed. 2020 Res.	Creep Factor: 2.0	H	Brg Width = 4.0				Min Req = 1.6
TCDL:	5.0 psf	BCDL: 5.0 psf	TPI Std: 2014	Max TC CSI: 0.299	Bearings B & H are a rigid surface.					
Soffit:	2.00	MWFRS Parallel Dist: 0 to h/2	Rep Fac: Yes	Max BC CSI: 0.755	Members not listed have forces less than 375#					
Load Duration: 1.25		C&C Dist a: 3.00 ft	FT/RT:20(0)/10(0)	Max Web CSI: 0.460	Maximum Top Chord Forces Per Ply (lbs)					
Spacing: 24.0 "		Loc. from endwall: Any	Plate Type(s): WAVE	VIEW Ver: 20.01.01A.0724.11	Chords	Tens. Comp.	Chords	Tens. Comp.		

#### Lumber

Top chord: 2x4 SP #2;  
Bot chord: 2x4 SP #2;  
Webs: 2x4 SP #3;

#### Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

#### Additional Notes

The overall height of this truss excluding overhang is 6'-7-1.



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02/24/2021

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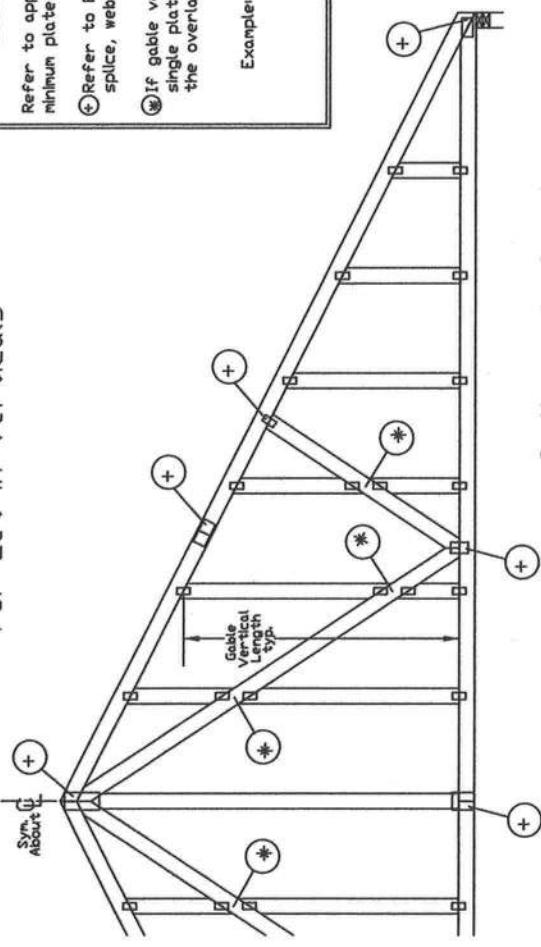
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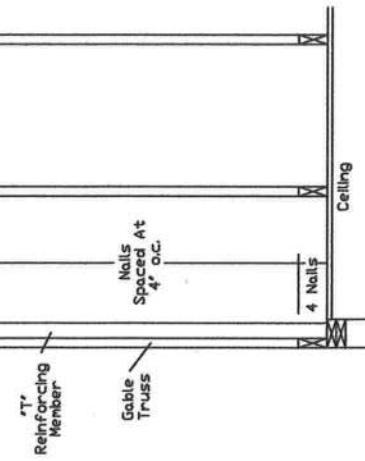
# Gable Detail

## For Let-In Verticals



Provide connections for uplift specified on the engineered truss design.  
Attach each "T" reinforcing member with  
End Driven Nails:  
10d Common (0.148" x 3", min) Nails at 4" o.c. plus  
(4) nails in the top and bottom chords.

Toenailed Nails:  
10d Common (0.148" x 3", min) Toenails at 4" o.c. plus  
(4) toenails in the top and bottom chords.



This detail to be used with the appropriate Alpine Gable detail for ASCE wind load.

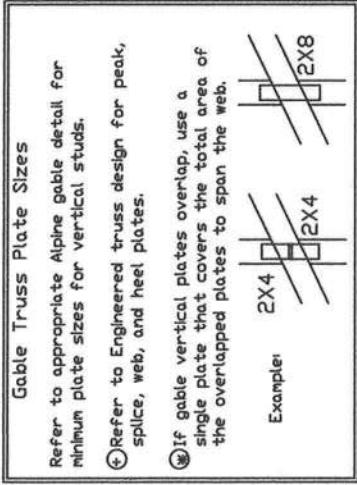
ASCE 7-05 Gable Detail Drawings  
A13015051014, A12015051014, A1015051014, A14015051014,  
A13030051014, A12030051014, A10030051014, A14030051014

To convert from "L" to "T" reinforcing members,  
multiply "T" increase by length (based on  
appropriate Alpine gable detail).  
Maximum allowable "T" reinforced gable vertical  
length is 14' from top to bottom chord.  
"T" reinforcing member material must match size,  
specie, and grade of the "L" reinforcing member.  
Web Length Increase w/ "T" Brace

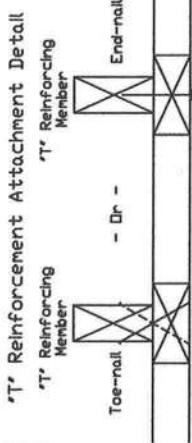
"T" Reinf. Mbr. Size	"T" Incr. % 2x4 2x6
2x4 2x6	30 % 20 %

Example:  
ASCE 7-10 Wind Speed = 120 mph  
Mean Roof Height = 30 ft, K<sub>Z</sub>t = 1.00  
Gable Vertical = 24 o.c. SP #3  
"T" Reinforcing Member Size = 2x4  
"T" Brace Increase (from Above) = 30% = 1.30  
(1) 2x4 "L" Brace Length = 8' 7"  
Maximum "T" Brace Length = 8' 7"  
1.30 x 8' 7" = 11' 2"

MAX. TOT. LD. 60 PSF  
DUR. FAC. ANY  
MAX. SPACING 24.0"



- ⊕ Refer to appropriate Alpine Gable detail for minimum plate sizes for vertical studs.
- ⊕ Refer to Engineered truss design for peak, splice, web, and heel plates.
- ⊕ If gable vertical plates overlap, use a single plate that covers the total area of the overlapped plates to span the web.



"T" Reinforcement Attachment Detail  
"T" Reinforcing Member  
"T" Reinforcing Member  
End-nail  
Toe-nail - Dr -

To convert from "L" to "T" reinforcing members,  
multiply "T" increase by length (based on  
appropriate Alpine gable detail).  
Maximum allowable "T" reinforced gable vertical  
length is 14' from top to bottom chord.  
"T" reinforcing member material must match size,  
specie, and grade of the "L" reinforcing member.  
Web Length Increase w/ "T" Brace

LET-IN VERT  
DATE 01/02/2018  
DRWG GBLLETIN0118

ALPINE READ AND FOLLOW ALL NOTES ON THIS DRAWING  
IMPORTANT FURNISH THE DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS.  
Trusses require extreme care in fabrication, handling, shipping, installing, and bending. Refer to and follow the latest edition of ICSI Building Component Safety Information, by TPI and SIPS for safety practices prior to performing these functions. Installers shall provide temporary bracing per IBC 2018. Unless noted otherwise, top chord shall have properly attached structural sheathing and bottom chord shall have a properly attached rigid calling. Locations shown for permanent lateral restraint or webs shall have bracing installed per ESI sections 33, 37 or 30, as applicable. Apply plates to each face of truss and position as shown above and on the Joint Details, unless noted otherwise.  
Refer to drawings for standard plate positions.  
Alpine, a division of ITW Building Components Group, Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI-1, or for handling, shipping, installation & bracing of trusses.  
A seal on this drawing or cover page listing this drawing indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Designing Engineer per ANSI/TPI 1 Sec.2.  
For more information see this job's general notes page and these web sites: 24/7/2017 278, Yoonihwak Kim, FL PE #86367, ALPINE www.alpinehtc.com TPI www.tpi.org IBC www.icfiindustry.org ICD www.icfiindustry.org

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